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Final Report on the Federal/State/Local
Nonpoint Source Task Force and
Recommended National Nonpoint Source Policy

Synectics Group, Inc., Washington, DC

Prepared for

Environmental Protection Agency, Washington, DC

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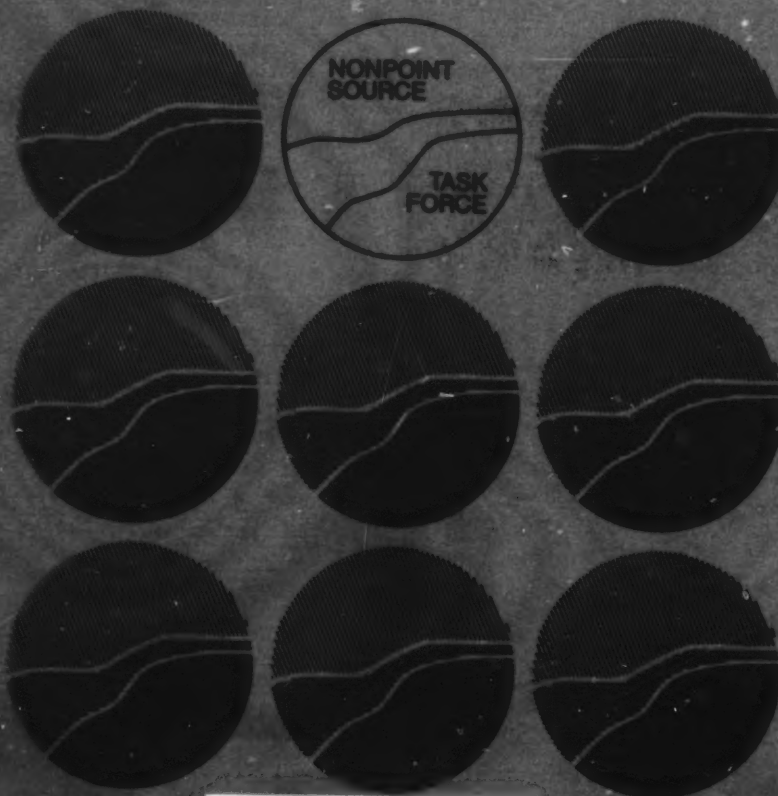
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Prepared for the
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by the
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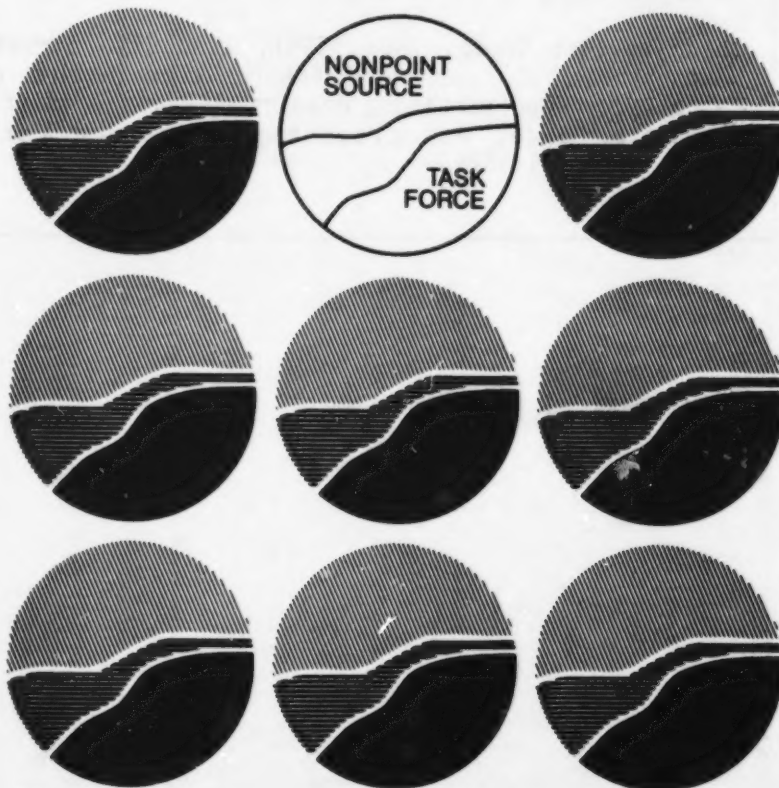


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10
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The Federal/State/Local Nonpoint Source Task Force was chaired by Jack E. Ravan, Assistant Administrator for Water at EPA. EPA expresses its appreciation to the agencies and organizations that were willing to commit senior managers and staff to this effort. The work of the Task Force could not have been accomplished without the active and continued participation of the members of the Task Force and their staff. The Task Force members and their staff are listed in Appendix A.

The Synectics Group, Inc. (TSG), 1130 17th Street, N.W., Washington, D.C., assisted EPA in coordinating the Task Force, arranging meetings, developing working materials for the Task Force, and preparing this report under EPA Contract #68-01-6629.

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INTRODUCTION

PURPOSE

This report summarizes the accomplishments of the Federal/State/Local Nonpoint Source Task Force. In recognition of the diversity of agencies with nonpoint source (NPS) management responsibilities and the need for coordination among these agencies, the U.S. Environmental Protection Agency (EPA) convened the Task Force in March 1984. The Task Force was charged with developing recommendations to the EPA Administrator on:

- A national nonpoint source policy; and
- Implementation strategies that address both single-agency and interagency issues and recommend appropriate management approaches to assure broader implementation of needed nonpoint source controls.

The recommended National Nonpoint Source Policy is presented in Chapter 3, and the implementation strategies developed by participating federal, state, local, and areawide agencies are summarized in Chapter 4. (The full text of each strategy is contained in Appendix B, with a limited number available upon request.)

TASK FORCE MEMBERS

When convening the Task Force, an attempt was made to include as many agencies with NPS management responsibilities as possible, but due to the large number of agencies with these responsibilities, it was not feasible to include all of them. The agencies on the Task Force were selected to be representative of the diversity of federal, state, local, and areawide agencies involved in NPS management. The names and affiliations of Task Force members (principals only) are listed below, while the names of Task Force staff are provided in Appendix A at the end of this report:

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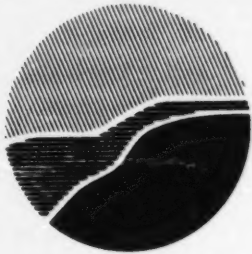
Lyman Wible, Wisconsin Department of Natural Resources/Association of State and Interstate Water Pollution Control Administrators (ASIWPCA)

George Wolff, National Association of Conservation Districts

ORGANIZATION OF THE REPORT

The first chapter of this report presents an overview of the nonpoint source problem by first defining "nonpoint sources" and then describing the nature and magnitude of the problem and providing information on specific NPS categories. The second chapter sets the context for formation of the Task Force and describes the steps involved in developing and implementing the National NPS Policy. The third and fourth chapters, as mentioned above, present some of the accomplishments of the Task Force; they contain the National NPS Policy and summaries of agency implementation strategies, respectively.

Overview of the Nonpoint Source Problem



CHAPTER 1: OVERVIEW OF THE NONPOINT SOURCE PROBLEM

DEFINITION OF A NONPOINT SOURCE

Over the last decade, significant achievements have been made nationally in the protection and enhancement of water quality. Much of this progress, however, has been accomplished by controlling the many point sources of pollution. While some state and local NPS management programs have been developed and implemented, pollutant loads from nonpoint sources present continuing problems for achieving water quality goals and maintaining designated uses in many parts of the United States.

Nonpoint sources of water pollution are both diffuse in nature and difficult to define. A commonly used definition is simply "a diffuse source of water pollution that does not discharge through a pipe." Examples include, but are not limited to, runoff from construction sites and from agricultural, silvicultural, mining, and urban areas. Nonpoint sources of pollution can come from any area, and most nonpoint sources do not discharge at a specific, single location. In general, NPS pollutants are carried over and through the ground by rainfall, runoff, and snowmelt. Legal distinctions complicate the definition, however. When runoff is collected and discharged through a pipe (e.g., in combined storm and sanitary sewers, or in cases of runoff from active mines), it is usually considered to be a point source. There are exceptions, however, such as the Clean Water Act's definition of irrigation return flow as a nonpoint source, despite the fact that the water is collected and returned to the stream through a discrete channel or pipe.

NATURE AND SCOPE OF THE NONPOINT SOURCE PROBLEM

Nonpoint sources may generate both conventional and toxic pollutants, just as point sources do. Although nonpoint and point sources may contribute many of the same kinds of pollutants, these pollutants are generated in different volumes, combinations, and concentrations. Pollutants from nonpoint sources are mobilized primarily during storm events. Consequently, NPS pollution episodes are generally less frequent and shorter in duration than continuous point source discharges.

Recently, much information has been compiled that demonstrates the pervasive nature of the NPS problem:

- The 1982 state Section 305(b) reports (i.e., water quality reports submitted biennially by the states to EPA pursuant to Section 305(b) of the Clean Water Act) indicate that virtually all states have some water quality problems caused by nonpoint sources. Half of the states said that nonpoint sources were a major or significant cause of remaining water quality problems, and approximately one-fifth of the states identified nonpoint sources as their major cause of water quality problems.

- In response to the Association of State and Interstate Water Pollution Control Administrators' (ASIWPCA) Nonpoint Source Pollution Survey (February 1984), 78% of the states indicated that the magnitude of current NPS pollution problems was greater than or equal to that of point source problems.
- All but one of the 38 states responding to a 1983 survey by the North American Lake Management Society indicated that nonpoint sources seriously affect lake water quality within their states, and more than two-thirds indicated that at least half of their lakes were being adversely affected by NPS pollution.
- The 1982 National Fisheries Survey conducted jointly by EPA and the U.S. Fish and Wildlife Service found that NPS pollution adversely affects fish populations in 38% of the nation's waters and is a major concern in 19%. Agricultural sources are the most widespread NPS problem and affect 29% of all waters.
- In the 1983 Environmental Management Reports, six of the ten EPA Regions stated that pollution generated by nonpoint sources was the principal remaining cause of water quality problems in their Region.

"The State's Evaluation of Progress," commonly referred to as the "STEP Report," produced jointly by ASIWPCA and EPA in 1984, shows that the nature of the NPS problem varies by state and Region (see Table 1). Agricultural activities are identified as the largest problem and are cited as "widespread problems" by two-thirds of the states. Mining, urban runoff, construction erosion, and silviculture are most often cited as "localized problems" in the STEP Report.

Agricultural Activities are a Dominant Source in Many Areas

The EPA Report to Congress entitled Nonpoint Source Pollution in the U.S. (January 1984) states that about 63% of non-federal lands in the U.S. are used for agricultural purposes, including crop and livestock production. It is not surprising, therefore, that agricultural activities constitute the most widespread cause of water quality problems from nonpoint sources. Indeed, they are considered the most serious cause in most of the EPA Regions. National studies suggest that agricultural NPS pollution adversely affects portions of more than two-thirds of the nation's river basins. For these reasons, agricultural NPS pollution is getting the most attention at this time.

NPS pollution from agriculture actually has several different sources with different associated effects. These sources include nonirrigated croplands (both row and field), irrigated croplands, animal production on rangeland and pastureland, and livestock facilities. The primary pollutants from nonirrigated croplands are sediment, nutrients, and pesticides. Irrigated farming is also a source of these pollutants, as well as salts and other minerals. Many

TABLE 1 NONPOINT SOURCE PROBLEMS BY STATE

State	Nonpoint Source Category				
	Agriculture	Silviculture	Mining	Construction	Urban
Region 1					
CT	*	-	-	•	•
ME	•	•	-	*	*
MA	*	*	-	*	*
NH	*	*	-	*	*
RI	*	-	*	*	*
VT	•	•	*	•	*
Region 2					
NJ	*	*	*	*	•
NY	*	*	*	*	*
PR	•	-	*	•	•
VI	-	-	*	*	-
Region 3					
DE	•	-	-	*	*
DC	*	-	-	*	*
MD	•	*	-	*	•
PA	•	*	*	*	*
VA	•	*	•	*	*
WV	•	*	•	•	•
Region 4					
AL	•	*	*	*	*
FL	•	*	*	*	*
GA	•	*	*	*	•
KY	•	*	*	*	*
MS	*	*	*	*	*
NC	•	•	*	*	*
SC	•	*	*	*	*
TN	•	*	*	*	*
Region 5					
IL	•	*	*	*	*
IN	•	*	*	*	*
MI	•	*	*	*	*
MN	•	*	*	*	*
OH	•	*	*	*	*
WI	•	*	*	*	*
Region 6					
AR	•	*	*	-	*
LA	•	*	*	*	*
NM	•	*	*	*	*
OK	*	*	*	*	*
TX	Not reported upon				*
Region 7					
IA	•	-	*	*	*
KS	*	-	*	*	*
MO	*	-	*	-	*
NE	•	-	-	-	*
Region 8					
CO	*	*	*	*	*
MT	•	*	*	*	*
ND	•	-	-	*	*
SD	•	*	*	*	*
UT	•	*	*	*	*
WY	•	*	*	*	*
Region 9					
AZ	*	*	*	*	*
CA	•	*	*	*	*
HI	*	-	-	*	*
NV	*	*	*	*	*
Region 10					
AK	-	•	•	*	-
ID	•	•	*	*	*
OR	•	•	*	*	*
WA	•	•	*	*	*

- Identified as a widespread problem (50% or more of state's waters affected)
- * Identified as a localized problem (less than 50% of state's waters affected)
- Source does not occur in state or does not affect support of designated uses

Source: Association of State and Interstate Water Pollution Control Administrators, 1984, *America's Clean Water: The State's Evaluation of Progress 1972-1982*, Appendix, Washington, D.C. and updated by EPA Regions and states.

of these pollutants may affect both ground and surface waters, and pesticides and nitrates (from excessive fertilizer applications) are being detected in some ground-water supplies. Runoff from barnyards and feedlots primarily contributes nutrients, organic matter, ammonia, fecal bacteria, and other microorganisms to receiving surface waters and sometimes ground water. Overgrazing of rangelands and pasturelands often contributes sediment and nutrient pollution through runoff; the surface disruption and reduction in natural cover associated with overgrazing increase the erodibility of these lands. Livestock grazing freely along streambanks compact and damage them, thereby increasing erosion and sedimentation problems. Livestock wastes also contribute to stream pollution.

Urbanization Increases Runoff Volume and Associated Pollutants

Urban runoff causes significant local water quality effects. Rainwater running off roofs, lawns, streets, industrial sites, and other pervious and impervious areas washes a number of important pollutants into urban lakes and streams. Runoff may also percolate through the soil to ground-water supplies, carrying pollutants with it. Of equal importance is the volume of stormwater runoff leaving urban areas--larger volumes of runoff can destroy aquatic habitat. As the percentage of paved surfaces increases, the volume and rate of runoff and the corresponding pollutant loads also increase. A large percentage of the pollutant load in urban runoff is comprised of sediment and debris from decaying pavements and buildings that can clog sewers and waterways, reducing hydraulic capacity (and thus increasing the chance of flooding) and degrading aquatic habitats. Heavy metals and inorganic chemicals (including copper, lead, zinc, and cyanides) arising from transportation activities, building materials, and other sources are also significant pollutants. Nutrients are found in urban runoff as a result of fertilizers applied around homes and in parks and degrading vegetative debris. Fecal bacteria from animal wastes are other important contaminants in urban runoff and may affect ground water as well as surface water. In addition, leaking septic tanks may cause nutrients, fecal coliform bacteria, and other materials to enter ground-water supplies.

Pollution from Mining: Difficult to Control

Although mining activities are not as widespread as agriculture, the water quality effects resulting from mining are usually much more harmful. Sedimentation rates resulting from mining can be extraordinarily high. Furthermore, whole streams may be biologically dead as a result of acid mine drainage. Other pollutants in mining runoff with potentially serious effects include heavy metals and radioactive materials. Active mine sites may pose a number of water quality problems. Most of these, however, are considered to be point source problems and are regulated under state and federal National Pollutant Discharge Elimination System (NPDES) permits. The main NPS problems at mining sites are runoff of sediment from haul roads at both active and inactive mine sites; drainage of pollutants including acid, sediment, salts, and metals from inactive mines; and drainage and leachates containing acid, metals, and sediment from the spoil and tailings piles located at both active and inactive mines. Both ground and surface waters may be adversely affected. In the

West, water quality effects from metal and uranium mining are more serious than those from other types of mining. Acid drainage from coal mines adversely affects water quality in the East and Midwest; the most damage has been observed in the heavily mined areas of the mid-Atlantic and Appalachian regions, where stream quality is severely affected by drainage from abandoned inactive coal mines.

Silviculture Generates Major Localized Problems

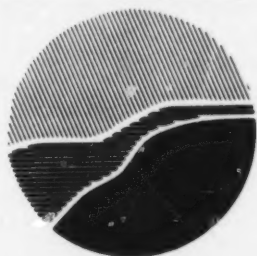
The smaller areal extent of forest management activities, less intensive site preparation, infrequent harvest, and lower frequency of pesticide and nutrient applications in a given year all result in silviculture generating a smaller volume of total NPS pollutants than agriculture nationwide. Silvicultural management activities can nonetheless generate major localized NPS pollution problems. In addition, the significance of nonpoint source pollution from silviculture goes beyond the total pollutant load contributed by this source. Forested watersheds often have the nation's highest quality waters, and these areas are the source of many municipal water supplies and are prized for cold-water fisheries, aesthetics, and other values. Silvicultural activities are actually comprised of a number of different operations, each of which has a different potential for NPS pollution. These activities include road building, pesticide and herbicide application, harvesting and logging operations, removal of trees from the harvesting site, and preparation of the site for revegetation. As is the case with agriculture, sediment is the major pollutant by volume. Soil type, slope, climate, and management practices markedly alter the rates of erosion and resulting sediment delivery to water courses. Although fertilizers and pesticides have been used increasingly in silviculture, they are typically applied only once or twice during a 20- to 35-year period, as compared to annual agricultural applications. Although the contribution of chemicals to lakes and streams is less frequently a problem for silviculture than agriculture, localized problems may result due to practices such as aerial spraying near a water course. Other water quality problems associated with forestry practices include debris from forest operations that contributes organic matter to water bodies and water temperature alterations resulting from removal of the vegetation that shades water bodies.

Construction Activities Yield Sediment and Other Pollutants

On a national basis, the water quality degradation caused by NPS pollution from construction activities is not nearly as great as the amount caused by other major nonpoint sources. This is due, in part, to improved construction erosion control by local jurisdictions. In addition, construction sites are often dispersed and, as a result, usually create only localized problems. In areas where construction activities are intensive, however, the localized impacts on water quality may be severe because of the high unit loads involved. Erosion rates from construction sites typically are 10 to 20 times that of agricultural lands. Sediment is the main construction site pollutant; according to the EPA Water Quality Management Needs Assessment for Fiscal Years 1980-1984 (1980), however, sediment from construction sites accounts for only about 4% to 5% of nationwide sediment loads in receiving waters. Other pollutants generated by construction activities include: chemicals from fertilizers, such as phosphorus, nitrogen, and other nutrients, which can be

attached to sediment particles or dissolved in solution; pesticides used to control weeds and insects at construction sites; petroleum products and construction chemicals, such as cleaning solvents, paints, asphalt, acids, and salts; and solid wastes, ranging from coffee cups to trees and other debris left at construction sites. Some of these materials can be toxic to aquatic organisms and seriously impair their fitness for human consumption. Such pollutants can also degrade the water itself, impairing its use for drinking and water-contact recreation.

Steps Taken in the Policy Development Process



CHAPTER 2: STEPS TAKEN IN THE POLICY DEVELOPMENT PROCESS

INTRODUCTION

The beginning of the policy development process occurred months before the Task Force was formed. In response to a Congressional request, EPA prepared a Report to Congress that examined the nature and magnitude of NPS pollution nationwide. The report's technical findings included a comparison of point and NPS pollutant loadings, a demonstration of the national scope of the problem, a description of some best management practices (BMPs) to control NPS pollution, and a discussion of technical factors affecting mitigation of the NPS problem. The Report to Congress also contained a number of institutional and management oriented findings. It outlined key components of state strategies to address the problem, examined institutional and economic factors affecting the control of NPS pollution, and identified existing federal, state, and, to a lesser degree, local programs to address the NPS problem. The Report to Congress and other efforts have illustrated that a multitude of agencies are involved in the management of nonpoint sources, and that these agencies often have overlapping responsibilities and jurisdictions. Because of the number of agencies involved, the need arose for a coordinated approach to the problem. As a result, the Federal/State/Local Nonpoint Source Task Force was formed.

This chapter provides background information on existing programs to address NPS pollution and research efforts to facilitate the management of nonpoint sources. The chapter then describes the formation of the Task Force, its mission, and its accomplishments.

EPA REPORT TO CONGRESS IDENTIFIED EXISTING FEDERAL, STATE, AND LOCAL PROGRAMS FOR NPS MANAGEMENT

Most state agricultural and silvicultural programs tend to be voluntary in nature, although approximately 11 states have regulatory or quasi-regulatory silvicultural programs. Sixteen states and the District of Columbia have regulatory programs to address construction site runoff, and all coal mining states have regulatory programs under the Surface Mining Control and Reclamation Act (SMCRA). Urban runoff from new development activities is addressed by some local governments; these programs tend to be regulatory in nature.

Federal programs for NPS management are addressed by a variety of agencies. The activities of federal agencies are important in the management of certain nonpoint sources because they concern either direct management of federally owned land (Bureau of Land Management within DOI, Forest Service within USDA, etc.) or they are programs designed to assist private landowners. Agencies with programs that reach the land manager, or that affect the relationship between the state and the land manager, are key to the implementation of nonpoint source controls for agriculture, silviculture, construction, and mining.

- Various USDA programs provide not only technical assistance to individual landowners, but also a range of incentives that affect the way the landowner chooses to manage the

land. In addition, USDA manages significant amounts of public land. Its programs affect agricultural, silvicultural, and mining nonpoint sources.

- The Office of Surface Mining (U.S. Department of the Interior) implements SMCRA, which regulates the activities of operating and abandoned coal mines.
- The Federal Highway Administration within the U.S. Department of Transportation grants billions of dollars of Federal Highway Trust Fund monies to construct interstate and federal highways, and conditions such grants on the application of appropriate BMPs.

Other federal programs both affect and provide support for control of nonpoint sources. The U.S. Army Corps of Engineers, for example, as part of its feasibility study program, conducts comprehensive watershed analyses that address both water quality and water quantity concerns. In addition, the Corps issues permits for a variety of activities that take place in or affect navigable waters. The Tennessee Valley Authority provides technical assistance to landowners in its region. This technical assistance is directed toward a variety of purposes, including management of nonpoint sources of pollution. In addition, huge landholdings are managed by the Bureau of Land Management, the Corps of Engineers, and the Forest Service for multiple-use purposes. Grazing, mining, silvicultural, and other activities take place on these publicly owned lands. Comprehensive planning processes are undertaken to ensure protection of the resource base and use of these lands for a variety of activities.

EPA programs cut across NPS categories and are directed toward the cleanup of any sources of pollutants that impede the achievement of water quality goals. Water quality management planning efforts funded under Section 208 of the Clean Water Act were largely completed by FY'81. States have developed varying levels of nonpoint source control programs as a direct result of Section 208 activity. EPA has continued to support the states in their development of nonpoint source control programs through other funded sections of the Clean Water Act. Sections 106 and 205(j) have provided basic direction and support for state nonpoint source activities. While Section 205(g) funds are also eligible for nonpoint source activities, they are not in widespread use due to high demand to address point source program needs. EPA's Chesapeake Bay Program is an ongoing effort to implement needed point and NPS controls in the watersheds of the Chesapeake Bay, based on the findings of research studies conducted under the program.

In addition, EPA continues to support a variety of experimental, demonstration, and research-oriented programs, the results of which will provide technical assistance to the states in implementing nonpoint source controls. One example is the National Urban Runoff Program (NURP), which investigated urban runoff problems and alternative control measures in 28 cities around the country. The Great Lakes Program has provided funds for demonstration projects directed toward nonpoint source pollution control measures in several watersheds of the Great Lakes, and the Clean Lakes Program has provided cost-share funds for implementation of nonpoint source controls to protect and restore lake water quality.

OTHER CURRENT NONPOINT SOURCE EFFORTS ADDRESS MANAGEMENT NEEDS

ASIWPCA Project Is Addressing State Nonpoint Source Management

EPA has funded a project by the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) to determine where the NPS problems exist, the sources that dominate in any given area, and the status of state NPS water quality programs. An important result of the study will be the compilation of data using a consistent format, facilitating data comparison and analysis. The data collected by this project will be used to define a national baseline for NPS-related water quality, needed for successful and effective NPS management at all levels of government. The project began in April 1984 and is scheduled for completion in September 1985.

RCA Process Identifies Problems and Helps Set Priorities

The Soil and Water Resources Conservation Act of 1977 (RCA) directs USDA to continually appraise the status and condition of soil, water, and related resources of the U.S. and to analyze trends in this information. The 1980 RCA appraisal identified water quality problems, and results of the analyses were used to set priorities for the future. In 1985, an update of the 1980 appraisal will be completed.

Nonpoint Source Data Center Is Being Designed

Under a grant from EPA, the National Association of Conservation Districts (NACD) is studying the need for and potential design of a NPS data center to facilitate NPS management. NACD is conducting five tasks as part of the project: study of the type of NPS data and information needed by local agencies; development of profiles of seven state cost-sharing programs; preparation of a report on the legislative and program status of the erosion and sediment control programs in the 23 states with these programs; development of standardized conceptual definitions of BMP systems; and production of a bi-monthly NPS newsletter. The project began in August 1984 and will be completed in approximately one year. The study is focusing on the Chesapeake Bay basin as a pilot for a national data center.

NALMS Conference Will Address Technical, Institutional, and Management Concerns

The North American Lake Management Society (NALMS), an organization dedicated to the protection, restoration, and management of lakes, reservoirs, ponds, and their watersheds, is currently working with EPA, other federal agencies, and private organizations to sponsor a NPS conference in May 1985. The program for this conference is currently being developed and will include the status of NPS control programs, challenges facing NPS programs, NPS monitoring and assessment techniques, NPS pollution and lake and estuarine water quality, federal compliance with state laws, institutional and financial aspects of NPS controls, point/nonpoint source abatement tradeoffs, and ground-water considerations in NPS management.

NPS MANAGEMENT NEEDS LED TO FORMATION OF THE FEDERAL/STATE/LOCAL NONPOINT SOURCE TASK FORCE

The NPS-related activities described above, as well as others not specifically mentioned, collectively pointed to an overriding need for improved coordination among the numerous agencies involved in NPS management. NPS pollution can result from virtually every land use and land management activity. The management of nonpoint sources requires the involvement and commitment of all federal, state, local, and areawide agencies and those components of the private sector that either affect or conduct land use and land management activities. NPS management objectives cannot be accomplished by agencies working in isolation. The diversity of agencies and organizations presents a difficult challenge--the coordination of NPS management efforts by a variety of agencies with diverse and potentially overlapping responsibilities. Enhancement of water quality benefits is made more difficult to achieve due to the competing priorities of the various agencies involved.

In recognition of the responsibility all these agencies have in NPS management, EPA convened a Federal/State/Local Nonpoint Source Task Force. (Task Force members and their staff are listed in Appendix A.) The Task Force was charged with two primary responsibilities: (1) to recommend a national NPS policy to the EPA Administrator to guide the implementation efforts of federal, state, areawide, and local governmental agencies and the private sector and (2) to develop agency strategies for implementing the national policy. This effort was viewed as a first and necessary step in addressing some of the interagency problems inherent in NPS management, strengthening the commitment of the individual agencies, establishing an understanding of the concerns unique to each agency, and establishing a communication network among the various agencies involved in NPS management.

NPS TASK FORCE DRAFTS A NATIONAL POLICY

The Task Force held a series of six meetings over a period of nine months. At the first meeting, Task Force members discussed important elements for inclusion in a national policy. From points raised during this discussion, a draft policy was written. Subsequent meetings served as a forum to solicit comments on the draft. These group sessions were important in building a consensus among Task Force members and the organizations that they represent. The final recommended policy, which is printed in Chapter 3, was adopted by the Task Force and presented to Mr. William Ruckelshaus, the then Administrator of EPA, at the final meeting of the Task Force on December 12, 1984. Letters of support for the policy can be found in Appendix B.

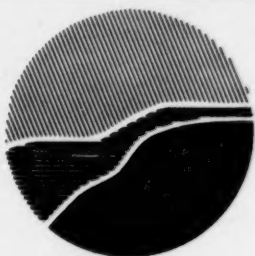
STRATEGIES WILL AID IN IMPLEMENTATION OF THE POLICY

During the nine months in which the Task Force developed the national policy, individual agency representatives were responsible for drafting NPS strategies to implement the National NPS Policy. Each federal agency and some state and local agencies participating on the Task Force developed an implementation

strategy. These strategies are summarized in Chapter 4 and are printed in full in Appendix B.

Development of these strategies can only be viewed as a first step in implementation however. A continued commitment from each agency is necessary to ensure that these strategies are implemented and that progress toward meeting NPS objectives continues to be made. The Task Force plans to reconvene in approximately six months and again in a year to assess progress to date, review the results of the ASIWPCA project and other NPS efforts, and consider any changes that may be needed to improve the management of NPS pollution.

Accomplishments of the Task Force: Recommended National Nonpoint Source Policy



CHAPTER 3: ACCOMPLISHMENTS OF THE TASK FORCE--RECOMMENDED NATIONAL NONPOINT SOURCE POLICY

INTRODUCTION

The National Nonpoint Source Policy was developed based on extensive deliberations by the Task Force. Early Task Force meetings established the framework for the policy and the major points to be included. Later meetings refined the wording of the policy to reflect the concerns of the participating agencies and to develop a workable policy consistent with the legislative mandate of each agency. In addition, members of the Task Force solicited comments from numerous individuals within their organizations, so that the final Policy statement could represent a consensus opinion. After the Policy was completed, each principal on the Task Force recommended that it be presented to Mr. Ruckleshaus, EPA Administrator at the time, as a Task Force document on December 12, 1984. The recommended National NPS Policy is presented in the following pages. Letters of support for the policy are printed in Appendix B.

NATIONAL NONPOINT SOURCE POLICY

PREAMBLE

The Clean Water Act establishes goals for the nation's waters. Considerable progress has been made in achieving these goals. However, additional progress in restoring and maintaining the nation's water quality and water uses will require greater implementation of nonpoint source (NPS) management programs in addition to ongoing point source control efforts. NPS management programs must build upon past planning and management efforts and strive for continued progress in achieving water quality goals and designated beneficial uses.

The objective of this National Nonpoint Source Policy is to support and accelerate the development and implementation of NPS management programs that ensure water quality protection while recognizing the competing uses of resources. The success of this policy is dependent on the willingness and ability of both the private and public sectors to manage their activities to support water quality goals wherever possible.

Meeting the objective of the Policy will require the following actions:

1. Use of the existing knowledge and program base and support of increased research efforts to define and assess NPS problems.
2. Identification of the appropriate roles of federal, state, local, areawide, and interstate agencies and the private sector in developing and implementing NPS programs.
3. Provision of the structure, available resources, and commitment by which all levels of government and the private sector can coordinate their efforts to identify priority needs and develop and implement cost-effective NPS management programs.
4. Support for an increased level of effort and emphasis on NPS programs by all levels of government and the private sector, for the purpose of meeting water quality goals.

NOTE: See Glossary for definition of several key terms used in this policy.

5. Preparation by each agency of a strategy for program development and implementation that: incorporates both short- and long-term objectives; recognizes that different areas of the country are at different stages of developing their NPS management programs; and that different geographical areas have different priority NPS problems.
6. Development and assessment of Best Management Practices (BMPs) based upon site-specific conditions that reflect natural background and natural variability of nonpoint sources, and that include consideration of political, social, economic, and technical feasibility.
7. Ensuring the recognition that nonpoint sources are different from point sources and that NPS programs are based on site-specific actions and application of preventive practices. Further, recognition of the need for flexibility in water quality standards to address the impacts of time and space components of NPS as well as naturally occurring events.
8. Development of working partnerships among all federal, state, local, areawide, and interstate agencies and the private sector, including non-governmental organizations, to best address NPS problems. These organizations, working in partnership, will be responsible for identifying needs, developing NPS programs, gathering and assessing data, and maximizing available resources.

STATEMENT OF POLICY

Achievement of national clean water goals requires greater implementation of NPS management programs. Emphasis should be placed on implementing NPS programs in watersheds affecting priority waters. Sources of nonpoint pollution should be evaluated to assess potential water quality impacts and needed program actions. NPS management is required to protect high quality surface and ground waters, and to restore and/or improve water quality for designated uses. In many instances, prevention of degradation has proven to be far more cost-effective than remedial measures.

NPS management programs must be flexible to allow for site-specific solutions to problems, to accommodate changes in technical knowledge, to respond to changes in uses of land, and to optimize net on- and off-site benefits. A mix of both point and nonpoint source measures should be considered in developing cost-effective strategies to improve and maintain water quality.

With federal leadership and coordination, all levels of government and the private sector need to cooperate to provide continued progress with available programs and delivery systems, to identify unmet needs, and to develop and implement NPS management programs where needed.

ROLES AND RESPONSIBILITIES

Following is a general summary of responsibilities of the different levels of government agencies and the private sector in managing NPS programs:

All Agencies - All agencies, where appropriate, will determine what institutional barriers to NPS management and implementation exist and work to remove them. All agencies will work to coordinate their NPS related data collection and research activities. In addition, inter- and intra-agency mechanisms will be developed for coordinating NPS management and implementation.

Federal Agencies - Federal agencies, in preparing their NPS strategies, will use available and future programs to provide state and local governments with financial and technical assistance and will conduct research and development. The provisions of this policy will be integrated into the decision processes of applicable federal agencies and into their delivery systems for funding and technical assistance. Where federal agencies have the responsibility for direct planning and management of NPS programs on public lands, they must coordinate NPS management actions with all levels of government.

As directed by the Clean Water Act, EPA will serve as the lead agency in coordinating interagency and state actions for managing nonpoint source programs. EPA will promote adoption of NPS management programs directed at achieving water quality goals; assist with program development; promote provision of incentives where needed; provide oversight of its water quality programs to ensure that they adequately address NPS problems; and include other agencies' evaluations of the water quality components of their programs in assessing overall NPS impacts on water quality. EPA will coordinate activities in research, education, demonstration projects, training, information transfer, technical assistance, and data collection and analysis with other agencies.

States - States will have the lead in developing and implementing NPS management strategies on state and private lands, in cooperation with appropriate levels of government and the private sector. Each strategy should define the state role and, in consultation with areawide and local agencies, the roles of areawide and local agencies in managing NPS programs, and designate a lead agency for managing NPS programs at the state level (several different state agencies may be needed to address different types of nonpoint sources). The lead state agency is responsible for developing and implementing strategies for managing NPS programs and should have water quality as its primary concern. States with effective NPS management programs should share their experiences with other states.

Local, Areawide, and Interstate Agencies - Local, areawide, and interstate agencies, through the mechanisms provided in continuing WQM planning processes, will develop NPS strategies in coordination with their respective states and will implement the programs within their jurisdictions using direct or delegated authorities.

Local agencies, often the first point of contact for the private sector, are in a unique position to solve NPS problems. The active involvement of these local agencies, with and through their areawide agencies in the preparation of strategies, will help to ensure consistency among strategies and provide a vehicle for public participation.

Private Sector - For activities other than those on federal and state lands, successful implementation of the NPS Policy and agencies' strategies is dependent on the cooperation and effort of the private sector. It is the policy of the government agencies to assist landowners and coordinate efforts with involved organizations, associations, and industry. It is the further intention of these agencies to help develop the potential for application of managerial and other private resources in the implementation of NPS management practices as part of each agency's strategy. Private investment in nonpoint source research and development of BMPs is strongly encouraged and will be supported with agency resources where feasible and available.

IMPLEMENTATION

To implement this National Policy, federal, state, local, areawide, and interstate agencies will develop and implement NPS strategies. Key strategy activities for Policy implementation include: problem assessment (e.g. problem identification, monitoring and data maintenance, research and development); program implementation (e.g. program planning, development, and implementation, targeting, technical assistance and education, BMP emplacement); incentives and compliance (including enforcement); coordination; resources; program evaluation and oversight. The strategies will be refined as existing programs and authorities are reviewed for consistency with existing and future state NPS management objectives and as institutional barriers are identified.

Responsibility for NPS implementation will depend on the nature of the NPS problem, the area in question, and the statutory framework. Implementation activities will emphasize site-specific solutions but will maintain a consistent NPS management approach across all levels of government and the private sector. Where appropriate, all agencies should consider and include as part of their strategies minimum eligibility requirements to enhance implementation of NPS management practices. Cooperative agreements will be developed, as needed, to ensure continued progress toward meeting national water quality objectives. A schedule for strategy development and implementation should be drafted recognizing the nationwide variability in program implementation.

EVALUATION

The Clean Water Act requires EPA to oversee the implementation of water quality programs and to report to Congress on the effectiveness of these programs. Given that all agencies are individually responsible for the periodic evaluation of their programs, EPA will include these evaluations in its assessment of NPS management efforts in determining if national water quality goals are being adequately addressed.

GLOSSARY

Agencies: All governmental bodies and entities that--under their mandates--have a role in addressing and/or mitigating NPS pollution. Federal, state, local, areawide, and interstate agencies are included.

Benefits (on-site and off-site): The whole range of direct and indirect benefits including, but not limited to, water quality, soil conservation, recreational and other beneficial uses, habitat and wildlife protection, increased productivity, flood control, and economic benefits to landowners or the public at large.

Best Management Practices (BMPs): Methods, measures, or practices to prevent or reduce water pollution, including, but not limited to, structural and nonstructural controls and operation and maintenance procedures. Usually, BMPs are applied as a system of practices rather than a single practice. BMPs are selected on the basis of site-specific conditions that reflect natural background conditions and political, social, economic, and technical feasibility.

Net Benefits: Since trade-offs (competitive relationships, in the language of economics) may exist between water quality and other social benefits, the social objective must be in terms of optimizing net benefits.

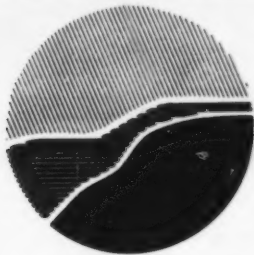
NPS Management Programs: All programs conducted by the public and/or private sector toward the goal of preventing or abating nonpoint source pollution. A wide range of activities may be pursued to this end, including BMP identification, training, dissemination of educational materials, technical assistance, monitoring, research and development, and oversight/evaluation. Cost-sharing programs and other incentives can also play vital roles. Programs may be regulatory or nonregulatory (voluntary), or combinations of both.

Nonpoint Source (NPS) Pollution: Diffuse sources of water pollution that are not regulated as point sources and normally include agricultural and urban runoff, runoff from construction activities, etc. In practical terms, nonpoint sources do not discharge at a specific, single location (such as a single pipe). Nonpoint source pollutants are generally carried over or through the soil and ground cover via stormflow processes. Unlike point sources of pollution (such as industrial and municipal effluent discharge pipes), nonpoint sources are diffuse and can come from any land area. It must be kept in mind that this definition is necessarily general; legal and regulatory decisions have sometimes resulted in certain sources being assigned to either the point or nonpoint source categories because of considerations other than their manner of discharge (for example, irrigation return flows are designated as "nonpoint sources" by law, even though the discharge is through a discrete conveyance).

Partnership: As defined in this policy statement, "partnership" describes the arrangement between interested parties for solving the problem of NPS pollution. The key quality of this arrangement is cooperation. The NPS problem inherently requires that the private sector and all levels of government contribute to its solution. All entities act as decision makers within their respective roles and areas of responsibility, and the one that can most appropriately address a particular problem takes the lead. The specific arrangements that implement a partnership may vary from informal public agency/private entity cooperation in nonregulatory programs to memoranda of understanding, contractual agreements, and cooperative agreements as defined by OMB under federal guidance (Federal Register, Vol. 43, No. 61, August 18, 1978).

Strategies: Written documents that specifically outline an Agency's plan of action to address nonpoint source problems that fall within its jurisdiction or legislative mandate. Strategy activities should be defined under six broad topics: problem assessment; program implementation; incentives and compliance; coordination; resources; program evaluation and oversight. A consideration of timeliness should be included.

Accomplishments of the Task Force: Agency Strategies



CHAPTER 4: ACCOMPLISHMENTS OF THE TASK FORCE--AGENCY STRATEGIES

INTRODUCTION

Each federal agency and some state and local agencies participating on the Task Force prepared a NPS strategy outlining agency-specific activities to be undertaken to implement the national policy. These strategies were evaluated by the other participating agencies at a workshop meeting. Each agency then revised its strategy to incorporate the comments, where appropriate. These strategies have been summarized in the following section and are printed in full in Appendix B, available upon request.

OVERVIEW OF AGENCY STRATEGIES

Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) is responsible for comprehensively addressing the environmental problems of air and water pollution, solid waste management, pesticides, toxic substances, radiation, and noise. The agency's primary functions include: setting and enforcing environmental standards; conducting research on the causes, effects, and control of environmental problems; and assisting state, interstate, areawide, and local agencies in implementing various environmental programs.

EPA is responsible for administering comprehensive environmental protection laws, including the Clean Water Act. Under the Clean Water Act, EPA is responsible for assuring the development and implementation of programs for preventing and abating both point and nonpoint sources of water pollution in cooperation with other agencies and the private sector. Since the passage of the Clean Water Act over a decade ago, much progress has been made in controlling industrial and municipal point sources. However, in many parts of the country, pollution from nonpoint sources prevents the attainment of water quality goals and designated uses. EPA recognizes that further progress will require accelerated implementation of NPS management programs.

EPA's NPS strategy notes that the management of NPS pollution is a high priority at EPA and that it has been clearly identified as a priority issue in the Agency's operating guidance. The strategy commits EPA to intensify its NPS activities, utilizing the staff resources necessary to do so.

As part of the strategy, EPA is encouraging the development and implementation of NPS management programs in those areas where pollution from nonpoint sources is preventing the attainment or maintenance of water quality goals and designated uses. The strategy emphasizes the need for programs to address both the maintenance and protection of clean water as well as remedial measures to correct existing problems. EPA encourages NPS implementation programs to be focused within specific geographic areas to achieve specific water quality goals for either surface water or groundwater and for NPS programs to address all the major nonpoint sources of concern. EPA's strategy also encourages management agencies to give particular attention to watersheds affecting priority waters.

EPA is encouraging state, areawide, and local agencies to take the lead in developing and implementing NPS management programs because site-specific and source-specific decisions at these levels are necessary for implementing effective NPS management programs. EPA's strategy emphasizes that solving NPS pollution problems requires commitment from all levels of government, but that more intensified efforts at the state, areawide, and local levels are essential for substantial progress.

The strategy notes that, as provided in the Clean Water Act, EPA serves as the lead agency in coordinating inter-agency actions for addressing NPS-related water quality problems. EPA's strategy commits the Agency to working with other agencies and the private sector to incorporate NPS control measures into their programs where appropriate.

EPA's NPS strategy also defines specific tasks (see Appendix B) that EPA will undertake to accelerate the management of NPS pollution including:

- Problem Assessment - Although state, areawide, and local agencies have the lead role in problem assessment, EPA will work with these agencies to identify water quality problems, pollution sources, and control needs. EPA will also assist in monitoring, data collection and maintenance, and research and development.
- NPS Program Development - EPA expects states, in cooperation with appropriate levels of government and the private sector, to take the lead in developing needed NPS management programs for priority waters (ground or surface waters). EPA will provide guidance and assistance to states and other agencies in developing NPS management programs. EPA's strategy includes a model list of activities to be undertaken in the development of state NPS management programs.
- Funding - A variety of funding sources are available under the Clean Water Act for managing NPS pollution. EPA will continue to make available and will increase the priority for using Section 106, 205, and 314 funds for NPS activities within the limitations of existing and future resources.
- Technical Assistance and Information Transfer - EPA will assist states and other agencies in identifying priority waters affected by nonpoint sources, developing cost-effective programs for achieving the desired environmental results, and promoting innovative approaches to NPS control, and will facilitate technology transfer and information sharing among states and localities.

- Coordination and Cooperation - Based on Section 304(k) of the Clean Water Act, EPA has a lead federal agency role in facilitating and coordinating consistency in the management of NPS water pollution. To accomplish this, EPA will develop memoranda of understanding (MOUs) as needed with other appropriate federal agencies. These MOUs will help ensure the maximum utilization of existing federal programs, policies, and legislative authority in achieving the implementation of state NPS management programs. EPA will encourage and support, to the maximum extent feasible, interstate coordination of NPS programs, including the Chesapeake Bay as a prototype of interstate cooperation and the Great Lakes as a prototype of international cooperation.
- Federal Compliance - Section 313 of the Clean Water Act and Executive Order 12088 establish policies and procedures related to compliance of federal facilities with applicable state, interstate, or local water pollution control requirements, including any requirements for controlling NPS pollution. Compliance is the primary responsibility of the appropriate federal facility manager or agency. EPA will participate in this process as required by the Clean Water Act and the Executive Order.
- Oversight and Accountability - EPA is responsible for reviewing NPS programs to ensure that water quality goals, standards, and designated uses are being met. To this end, EPA annually reviews the status of state NPS problems and management programs as part of the Office of Water Accountability System review. In addition, EPA plans to explore other programs and policies that can be developed under current authorities to improve the Agency's ability to control NPS pollution and achieve water quality goals and standards more cost-effectively. As outlined in its NPS strategy, EPA will try to identify institutional constraints to effective NPS management and will work with the affected parties to remove or ameliorate these barriers.

Soil Conservation Service

The Soil Conservation Service (SCS) was created in 1935 to control erosion which was stripping topsoil from America's farms at a dangerous rate. Since then the SCS mission has expanded to cover three major areas: soil and water conservation, natural resource surveys, and rural community protection and development. Since 1982, the SCS water quality strategy has recognized water as an inseparable component of the resource base and has sought the integration of water quality concerns into all ongoing SCS programs and activities. The SCS nonpoint source strategy extends this commitment to ensure that NPS pollution concerns are recognized and integrated into SCS programs.

NPS pollution will be addressed through SCS technical assistance to programs such as the EPA Clean Lakes, Chesapeake Bay Basin, and Area Wide Waste Water Management Programs. NPS concerns will also be incorporated into SCS's technical assistance programs to states and to other federal agencies.

To improve NPS monitoring and assessment, SCS will undertake a number of new projects including:

- Formulating an SCS Geographical Information System for use in addressing water quality concerns.
- Initiating pesticide-groundwater field studies
- Supporting, in cooperation with other agencies, the use of the Resources for the Future (RFF) national water quality model as a method of analyzing on a national and regional level, off-site effects from agricultural activities.
- Initiating special studies to develop data on cost-effectiveness of NPS control measures and the quantification of both problems and impacts.

In the area of education and training SCS has several new and ongoing activities planned which will contribute to its NPS strategy:

- Ongoing training of SCS and ASCS personnel in water quality.
- Providing training to state water quality agencies and conservation districts via specific agreements.
- Creating a position for technical specialist on pesticide-groundwater interactions and developing a training program for it.
- Convening a symposium on Off-Site Effects with emphasis on calculation of economic impacts.

As part of its 1985 Resource Conservation Act activities, SCS will be reassessing water quality concerns from agricultural nonpoint sources through September 1985. Reassessment and review activities will center on targeting, resource, and incentive issues, including plans to:

- Review existing targeted areas for possible redistribution of SCS project resources, particularly in areas with multiple resource problems where the soil resource base can be protected while improving water quality.
- Consider modifications to Conservation Operations allocation formula to ensure consideration of NPS problems identified with agricultural activities.
- Participate in the Rural Clean Water Program (RCWP) National Coordinating Committee review of resource allocation for existing RCWP projects and determine if there is an opportunity for new project starts.

- In cooperation with ASCS, assist state and national level conservation groups in reviewing existing programs for opportunities to implement the National NPS Policy.
- In conjunction with EPA, review proposals for tax incentives for NPS management practices.
- Review regulations governing incentive payments for all SCS programs to insure adequate consideration of off-site effects.

Finally, SCS will continue to serve on a number of committees such as:

- NACD/EPA NPS Clearinghouse and ASIWPCA state NPS Assessment Steering Committees.
- SCS-USGS, Colorado River Basin Salinity Control Program, and RCWP National Coordinating Committees.
- Interagency Committee on Groundwater, International Joint Commission-Water Quality Board, and National NPS Task Force.

Agricultural Stabilization and Conservation Service

As an agency of the U.S. Department of Agriculture, the Agricultural Stabilization and Conservation Service (ASCS) administers farm commodity, conservation, environmental protection, and emergency programs related to agricultural production. These programs provide for commodity loans and, as required, price support payments, acreage reduction, cropland set-aside, and other means of production adjustment, as well as conservation cost-sharing agreements and emergency assistance.

Within ASCS, the Agricultural Conservation Program (ACP) is charged with:

- Helping prevent soil erosion and water pollution,
- Protecting and improving productive farm and ranch land,
- Conserving water used in agriculture,
- Preserving and developing wildlife habitat, and
- Encouraging energy conservation measures.

The ACP is national in scope and provides cost-sharing to farmers and ranchers to carry out conservation and environmental protection practices that result in long-term public benefits, but which the farmer or rancher could not be expected to undertake without financial and technical assistance.

To implement the National NPS Policy, ASCS has identified several program areas where NPS pollution control can be emphasized or introduced. NPS problems are currently recognized as one of the primary purposes eligible for cost-sharing assistance reported in the Conservation Reporting and Evaluation System (CRES). To improve its effectiveness, the ASCS strategy calls for

cooperation with EPA and the Soil Conservation Service to develop quantifiable data that can be collected through CRES to provide a better tool for monitoring and evaluating NPS water quality efforts, and to develop MOUs with non-USDA entities to use CRES for NPS evaluation purposes.

NPS problems are also an important concern for the local, state, and national conservation review groups who meet periodically to review accomplishments, establish priorities, and recommend needed changes. However, ASCS plans to place additional emphasis on NPS pollution by encouraging conservation review groups at all levels to:

- Identify and rank known NPS problem areas;
- Develop any cost-effective special practices necessary to solve the identified NPS water quality problem; and
- Propose selected water quality projects for special funding consideration.

To aid in the development of best management practices (BMPs), ASCS plans to use the Rural Clean Water Program water quality data to evaluate BMPs and will identify available resources for commitment to cost-effective NPS BMPs. Lastly, ASCS will work with other agencies to provide training to employees in identifying agricultural NPS problems.

U.S. Forest Service

The U.S. Forest Service (USFS) is dedicated to multiple-use management of the nation's forests and rangelands for sustained yields of renewable resources such as water, forage, wildlife, timber, and recreation. To accomplish this, Forest Service activities cover three major areas:

- Management, protection, and use of the National Forest System for a continuous flow of services and products both now and in the future;
- Cooperation with state and local governments, forest industries, and other private landowners and forest users in the management, protection, and development of 877 million acres of forest land in non-federal ownership; and
- Research in forestry and forest products utilization to provide the scientific and technical knowledge necessary to protect the nation's natural resources on all lands, gain the maximum benefit from their use, and leave the environment unspoiled.

The U.S. Forest Service strategy is to continue current program activities mentioned above as they relate to NPS pollution, and to coordinate these activities with EPA and other agencies. Specific National Forest System (NFS) management plans include:

- Using and refining handbooks and materials such as the Forest Service Manual, Regional Guides, and Water Resource Evaluation Nonpoint Silvicultural Sources (WRENSS) to accomplish NPS control objectives;
- Continuing improvement of watershed conditions to reduce nonpoint sources;
- Monitoring baseline water quality and NFS operations to determine effectiveness of prescribed best management practices; and
- Implementing water quality programs as contained in the Resource Planning Act (RPA) Program, Regional Guides, and Forest and Research Plans.

The U.S. Forest Service already has in place a substantial technology transfer/state assistance program related to NPS concerns. Continuing activities will include:

- Assisting in the development of State Forest Resource Plans and Water Quality Plans;
- Participating in state technical committees;
- Assisting states in developing monitoring strategies and procedures for silvicultural NPS control;
- Providing technical expertise to EPA for all aspects of forest management nonpoint sources; and
- Providing in-service training for personnel involved in resource management where there is a potential for affecting water quality.

Forest management research will be used to determine effectiveness of a specific practice or set of practices where adequate information does not exist. USFS will continue to:

- Work with states, universities, and forest managers in setting research priorities and developing programs related to NPS;
- Conduct site specific evaluations to determine cause/effect relationships between forest practices and water quality; and
- Determine better means of estimating effects of planned forest management activities on water resources.

USFS is engaged in several coordination activities. The agency's NPS strategy calls for continued cooperation with other agencies by:

- Sharing USFS data with others through storage in the EPA STORET system;

- Participating in USGS's Interagency Committee on Water Data and the Interagency Committee on Ground Water;
- Coordinating USFS programs with EPA, other federal agencies, state agencies, and local water quality entities to implement NPS control programs; and
- Reviewing and strengthening, as needed, the EPA/USFS interagency agreement.

USDA Extension Service

The USDA Extension Service (USDA-ES) is part of a three-way partnership (federal, state, and county) known as the Cooperative Extension Service (CES). The basic mission of CES is to improve American agriculture and strengthen American families and communities through the dissemination and application of research-generated knowledge and leadership techniques. The federal partner, USDA Extension Service, provides support for the State Cooperative Extension organizations by overseeing the distribution of federal funds, reviewing CES programs, and informing states about federal priorities and programs.

As the educational arm of the U.S. Department of Agriculture, CES provides information, materials, publications, and advice in several major areas that involve NPS concerns: agricultural production, natural resources and conservation, and family living. CES involvement in the national NPS effort focuses on information and education programs that develop awareness of: (1) the nature, scope, and impacts of NPS pollution, (2) the need to employ best management practices to reduce NPS pollutant loadings to surface and ground waters, and (3) the mechanisms to integrate such BMPs into the production systems and lifestyles of the audiences.

Current CES activities relevant to NPS pollution include:

- Designation of an NPS coordinator in every state;
- Active participation in multi-agency efforts to assess the extent and impact of NPS pollutants on surface and ground water; and
- Development of educational programs for farmers, homeowners, pesticide applicators, and forest managers on such topics as proper management of animal wastes, disposal of household pesticides, irrigation scheduling, conservation tillage techniques, integrated pest management, and BMPs for forest industries.

For the future, USDA's Extension Service will build upon current efforts and encourage state and local Extension staff to develop NPS education programs that reflect their needs and priorities. To assist in these efforts, USDA-ES will perform a variety of activities including:

- Continuing to inform CES of the need for programs to develop public understanding and further individual efforts to reduce NPS pollution;
- Periodically monitoring the level of CES involvement in the development and delivery of NPS educational programs;
- Assisting the states in identifying resources for NPS educational programs;
- Encouraging communication and, where appropriate, formal agreements between CES and EPA Regional Offices, private organizations, and state water quality agencies;
- Cooperating with other federal agencies to develop coordinated programs to reduce NPS pollution; and
- Continuing, and periodically updating, the MOU between USDA-ES and EPA.

U.S. Geological Survey

Established by an Act of Congress in 1879 and charged with responsibility for "classification of the public lands, and examination of the geological structure, mineral resources, and products of the national domain," the U.S. Geological Survey (USGS) has been the nation's principal source of information about its physical resources. Over the years, Congressional and Executive directives have expanded the Survey's geological mission to include topographic mapping and hydrological investigations of water in streams and underground. In compliance with this broad mission for earth science research and application, the USGS provides hydrologic data and an understanding of hydrologic processes for the best use and management of the nation's water resources. Although not a regulatory or land management agency, USGS collects large amounts of data and performs hydrologic investigations related to the identification and management of nonpoint sources of pollution. Some of these activities are federally funded under various national programs of the USGS. Others are conducted in cooperation with state and local agencies (on a 50/50 matching basis) or are supported by other federal agencies.

In keeping with its mission to provide earth science research and related applications, the USGS will contribute to the national nonpoint source pollution effort by developing, interpreting, and disseminating scientific information on the nature, extent, and causes of the problem. This strategy assumes that management strategies including BMPs must be based upon a sound understanding of hydrologic factors if they are to result in a net improvement, rather than an exchange of one problem for another.

USGS already collects large amounts of data and performs hydrologic investigations related to the identification and management of nonpoint sources of pollution under its various national and cooperative programs. The USGS strategy will be to continue such activities as:

- Providing high-quality chemical analyses of water samples for Federal and Federal/State Cooperative investigations of water quality problems.
- Monitoring water quality at a nationwide network of 503 fixed stations (the National Stream Quality Accounting Network) representing major drainage basins, and at a nationwide network of 52 fixed stations located in pristine areas (Hydrologic Bench-Mark Network).
- Providing computer-assisted access to these and all other water quality data through the USGS WATSTORE system, and providing these data to EPA's STORET system.
- Undertaking cooperative hydrologic investigations with other federal agencies and with state or local governments on specific hydrologic problems.
- Publishing an annual "National Water Summary" including descriptions of major NPS pollution problems in each state.
- Supporting the development of models to compute loadings, transport, and fate of contaminants in surface and ground waters.
- Continuing investigation of urban runoff processes to provide guidance to urban planners and to aid the development of methods for controlling NPS pollutants.
- Conducting research on the fundamental processes of pollutant mobilization, partitioning between sediment and water, bioaccumulation, transport, degradation, and fate. Increased efforts are now being planned for toxic substances in surface water and sediment in FY 1986.

Bureau of Land Management

The Bureau of Land Management (BLM) is responsible for achieving balanced and effective multiple-use management of publicly owned land in 11 Western states and Alaska. In addition, BLM manages federally owned subsurface water rights throughout the nation underlying lands that are administered by other agencies or are privately owned. These lands contain a vast and rich array of resources. BLM is charged with managing these resources to provide for the needs of America's people for self-sufficiency in energy, mineral, agricultural and forestry products, for recreational opportunities, and for preservation of historic and cultural resources.

BLM potential land management actions address background levels and the potential of contributions of NPS pollution during the documented planning analysis and selection of alternatives of single and multiple use actions. In addition, BLM has undertaken site-specific on-the-ground research projects targeting runoff, sediment, and chemical nonpoint source problems.

The BLM NPS strategy will be to continue to:

- Provide cooperation and assistance to state agencies in the management of the public lands to reduce nonpoint source pollution sources.
- Incorporate water quality impacts, including nonpoint sources, into land management actions planned and implemented by the BLM, including BMPs.
- Identify and address nonpoint source water quality issues in BLM activity plans, including grazing allotment management plans, timber plans, watershed activity plans, minerals plans, and environmental documents.
- Provide personnel and resources to identify nonpoint source pollution and control techniques through coordinated research efforts and the implementation of BMPs.
- Implement program practices in conducting land use and land management activities to avoid or reduce water quality impacts and to improve water quality as necessary to meet management objectives and regulatory requirements.

Office of Surface Mining

In 1977 the Office of Surface Mining (OSM) was established in the Interior Department to provide a nationwide program protecting citizens and the environment from the adverse effects of surface and underground coal mining operations. The Surface Mining Control and Reclamation Act (SMCRA), which created OSM, specifies a "state-lead" concept in conjunction with minimum federal standards. As a consequence, the states are responsible for doing the bulk of the regulatory and reclamation work, while OSM has assumed an oversight role to assure the job is done in concert with the law.

To carry out its NPS strategy, the Office of Surface Mining (OSM) will use its existing oversight, inspection, and permitting processes. NPS pollution will continue to be monitored on a state-by-state basis for all coal mine operations. Where NPS problems exist, recommendations will be made for remedial action. In subsequent oversight reports, follow-ups will be made to ensure that remedial action has been taken and the problem corrected.

Through the inspection and permitting process, compliance with all OSM regulations which affect NPS pollution is assured. These regulations were updated recently to reflect state-of-the-art technology with regard to water pollution control.

The OSM strategy also calls for NPS pollution abatement through its Abandoned Mine Land (AML) programs. The AML fund may be used for reclamation projects in order to restore water resources previously degraded by adverse effects of coal mining.

Although research and development funds are limited, hydrology has been given a very high priority. Currently, a major research effort is underway to evaluate alternatives to sediment ponds, some of which may prove to be effective NPS control methodologies.

At present, technical assistance is provided to state governments when requested. However, a specific course on hydrology is being developed for inspectors which should enhance NPS pollution control.

Federal Highway Administration

The federal-aid highway program administered by the Federal Highway Administration (FHWA) is a federally assisted, state administered program that operates through the distribution of federal funds to the states to construct and improve a designated system of urban and rural highways. Local roads and streets are not included as part of the federal-aid system and make up 78 percent of the total mileage in the United States. As part of its mandate, the FHWA currently incorporates within its program a process to consider the effects of federally aided highway projects on water quality, including both point and NPS pollution impacts on surface and ground water. Specifically, FHWA policy requires that federal aid highways and highways constructed under the direct supervision of FHWA must be located, designed, constructed, and operated according to standards that will minimize erosion and sediment damage to the highway and adjacent properties and abate pollution of surface and ground-water resources.

The FHWA strategy is to continue to ensure, through existing regulations and enforcement mechanisms, the adequate consideration and mitigation of NPS pollution impacts in the construction of roads receiving federal aid. In practice, this takes the form of a series of steps that must be followed when seeking federal funds for highway projects. The first step is an evaluation of potential water pollution impacts from construction, such as effects from erosion or on-site asphalt plants, as well as operational impacts from such things as surface runoff of herbicides, fertilizers, and de-icing materials. When an adverse environmental impact is identified for a project, an attempt is made to mitigate the impact by a variety of activities including the use of BMPs. Mitigation activities are then included as binding commitments in project plans and designs.

During the construction and operational phases, the FHWA is responsible for overseeing the implementation of various regulations designed to minimize the adverse environmental effects of these activities. For example, temporary erosion and sediment control measures must be coordinated with permanent measures to assure economical, effective, and continuous control throughout the construction phase. Other regulations require that materials from sediment traps and materials used during highway construction or operation are not stockpiled or disposed of in a manner which makes them susceptible to washoff into any water course. Compliance with such regulations is monitored through mechanisms such as environmental document approval, approval of plans, specifications, and estimates, and project acceptance reports.

In targeting its efforts, FHWA is responsive to the priority water bodies as identified by the responsible state water quality agencies. In addition, FHWA has an extensive technology transfer program, which includes training, research, and two recent demonstration projects entitled "Water Quality Monitoring for Construction Projects" and "Monitoring and Analysis of Highway Stormwater Runoff."

Corps of Engineers

The Corps of Engineers (COE) is charged with the responsibility of undertaking water resource development projects having navigational, flood control, water supply, hydroelectric, recreational, environmental, and other attendant benefits to the nation. This requires COE to study water and related land resource problems and to evaluate the need, engineering feasibility, economic justification, and environmental and social suitability of proposed solutions.

In most cases, the COE has continuing responsibility after completion of construction for the preservation, operation, maintenance, and rehabilitation of its projects, which include canals, levees, dams, harbor and navigational channels, and reservoirs, as well as their related waters. In addition, the COE manages the multiple use of nearly 12 million acres of land and water on these projects nationwide. As a consequence, COE is deeply concerned with the effects of runoff from areas upstream of its projects and facilities, as well as the downstream effects of Corps projects and facilities.

The main emphasis of the Corps of Engineers' NPS strategy is on the provision of technical assistance. The COE does not anticipate taking a lead role, but rather will assist federal, state, areawide, local, and private sector agencies in their efforts to manage NPS pollution, particularly in the problem assessment phase. For instance, in the area of problem identification, the COE proposes that it participate in the formulation of screening criteria for targeting water bodies for protection, as well as reviewing and providing water quality and hydrologic data and models. In terms of data management, the COE will establish and maintain close coordination with existing and proposed EPA databases and will participate in any annual NPS data coordination meetings. Also, the COE will provide technical assistance through its research and development program. COE plans to examine its current research and development activities to determine which programs have elements that would increase knowledge of NPS problems and their management.

COE plans to incorporate the principles of the National NPS Policy into its regulatory program. In addition, COE will include language reflecting these principles in its planning, policy, operation and maintenance, and construction regulations.

Department of Defense

In 1973, the Department of Defense (DOD) dedicated itself to national leadership in environmental programs. Committed to protecting water, air, and land resources, DOD developed four separate, but integrated, program areas: environmental protection, natural resources, pest management, and civil works (COE).

In response to the National NPS Policy, DOD has developed an NPS management strategy designed to abate NPS pollution generated by DOD. The DOD implementation strategy is directed at the installation level, and thus will be the responsibility of installation commanders. Guidance and oversight will be provided at various levels of the command structure--the major commands, the DOD Headquarters component (i.e., Army, Navy, etc.), and the overall DOD.

Because the Department of Defense is a major landholder within the U.S., any national effort to control NPS pollution will have a significant impact at every level of management within DOD. Consequently, a number of steps will be taken to reflect this. DOD will:

- Include NPS management in existing training for individuals and managers responsible for installation activities and operations;
- Support the exchange of water quality and other management and technical specialists between the DOD and other federal, state, areawide, local, and private sector agencies with NPS management responsibilities; and
- Designate DOD interagency/intergovernmental coordinating agents who will coordinate installation NPS management efforts in multi-installation/multi-service areas.

As part of its comprehensive strategy, DOD will include language reflecting the principles of the National NPS Policy in planning, policy, operation and maintenance, and construction regulations. This will affect such diverse activities as military construction projects, installation operations, community planning, and land management. Land management activities, in particular, will increasingly take into account NPS concerns in such areas as forestry management, off-road vehicle use, stormwater runoff, fish and wildlife management, erosion control, leased agricultural land, and pest management.

In the areas of problem assessment and research, DOD will:

- Provide routinely collected water quality and hydrologic data, and relevant research and development information upon request by NPS management agencies; and
- Coordinate with federal, state, areawide, local, and private sector agencies to examine the possibility of including NPS considerations in DOD research and development projects designed for other purposes.

In terms of coordinating efforts nationally, DOD and its components will continue to cooperate with other government and private sector NPS management agencies in all aspects of NPS management. Although DOD has no authority for enforcement of the National NPS Policy, DOD will cooperate fully with those NPS management agencies that have enforcement authorities.

Tennessee Valley Authority

The Tennessee Valley Authority was created by the U.S. Congress to assist in the proper use, conservation, and development of the natural resources of the seven-state Tennessee Valley region. In addition to its energy, economic development, and agricultural programs, TVA is committed to programs and policies that protect environmental quality. Specifically in the area of water quality, TVA's activities have as their primary purpose the restoration and maintenance of suitable water quality throughout the Valley to permit optimum use of surface and ground waters for: municipal, industrial, and agricultural water supplies; propagation of fish and wildlife, and water contact recreation. As a consequence, TVA's involvement with farming and mining operations in the region and its monitoring and regulating of watersheds translate into a diverse set of responsibilities and opportunities for managing NPS pollution.

Although TVA has not yet developed a long-term strategy, it has already begun and will continue to address NPS pollution control as a regular part of its regulatory and program objectives. For instance, as part of its agricultural assistance programs, TVA conducts research and demonstrates soil conservation techniques and methods for reducing the loss of nitrogen from applied fertilizers. In cooperation with state and federal agencies, TVA also provides cost-sharing assistance for the construction of animal waste facilities in targeted watersheds with water quality problems. As part of its land administration activities, TVA makes it a practice to incorporate requirements for using BMPs to control NPS pollutants into the deeds, leases, and permits of those using TVA lands for agricultural purposes.

Similarly, TVA's contracts with coal providers contain provisions which allow TVA to suspend shipments from coal companies that do not comply with state or federal laws or regulations regarding pollution (including NPS) control. TVA is also active in reclaiming abandoned mined lands through its reclamation demonstration projects for both coal- and noncoal-mined lands, and use of cost-sharing incentives for abandoned mined land reclamation in several targeted watersheds. In FY 1985, TVA will select, plan, and initiate reclamation activities on some 142 contracts associated with pre-1978 strip mined land from which TVA purchased coal.

Many of TVA's activities center around the assessment, monitoring, and protection of the reservoirs and watersheds under its management. To improve its assessment capabilities, TVA is cooperating with USDA and Valley State Food and Agriculture Councils to complete the development of a computer-based natural resource data information system and to prepare an assessment of the status and condition of soil, water, and related agricultural resources in the seven-state TVA region. Following this assessment, TVA and cooperating agencies are committed to conducting demonstration projects for soil erosion control and water quality improvements in agricultural watersheds in each of the seven river valley states. One goal of these demonstration projects is to serve as national models for NPS pollution control to achieve Clean Water Act goals. TVA is also engaged in the testing of alternative data collection techniques, such as the use of aerial photographs and other remote sensing systems for inventorying nonpoint pollution source areas. In cooperation with the seven river valley states, TVA is in the process of developing water quality management plans for TVA reservoirs, including NPS pollution control

needs. NPS pollution control is also being sought in watersheds by specifying the use of BMPs in land management plans. In FY 1986, TVA will be implementing a water quality monitoring program for the seven-state TVA region. This program is being designed in cooperation with river valley state agencies and will include NPS pollution assessments.

Coordination activities include the signing of an MOU with Tennessee regarding NPS pollution control. TVA anticipates developing MOUs with three other states and with EPA. Finally, in FY 1985, TVA plans to develop a long-range NPS pollution control strategy for its activities and facilities.

Wisconsin Department of Natural Resources

The Wisconsin Department of Natural Resources is currently implementing a NPS control program. The program concentrates available funds in priority watersheds. Watershed projects are selected to maximize comprehensive improvements in water quality. All NPS categories of concern in each watershed are addressed. Priority watersheds are identified, and, within these watersheds, priority management areas contributing most significantly to the pollution problem are further identified through a detailed planning process. Priority watershed projects are selected for concentrated attention based on the severity of the water quality problem(s), potential for pollutant load reduction, willingness of landowners and local agencies to participate, and potential benefits to be achieved.

Watershed implementation plans are prepared which include a detailed inventory and assessment of critical pollutants and sources and with an identification of project objectives. Water quality objectives for NPS control are based on the type of impairment and on both biological and physical parameters. Through the development of a watershed implementation plan, the critical land areas producing the majority of the pollutant load are identified and become the focus for project implementation. After the implementation plan is approved, cost-share agreements with landowners and municipalities are signed, requiring BMP installation within five years and binding cost-share recipients to operation and maintenance requirements for the life of each practice. Watershed project implementation generally takes about eight to nine years.

The entire process relies on continual involvement of state and local agencies and individual landowners. The program also attempts to build upon existing agencies and institutions. Interagency coordination and cooperation are essential in this integrated program. In addition, project progress is tracked on a regular basis to relate water quality improvements to specific control activities, to provide information on BMP effectiveness, and to provide feedback to appropriate agencies for needed program adjustments. Over fiscal years 1979-1985, the State of Wisconsin has appropriated \$23.8 million to the NPS control program.

Maryland Office of Environmental Programs

Table 2 was provided by the State of Maryland as a summary of its NPS programs.

TABLE 2 STATE OF MARYLAND WATER QUALITY MANAGEMENT PROGRAMS

Program	Administering Agency			Program		Form of Nonpoint Source Pollution	Effectiveness
	Local	State	Federal	Type	Extent		
Maryland Agricultural Cost-Share Program	SCDs	Dept. of Agr. DDM	-	VOL INCEN	State	Agriculture (soil, animal wastes, chemicals)	New (locally effective)
State support of SCDs	SCDs	Dept. of Agr.		INCEN	State	Agriculture, urban sediment (construction)	Locally
Maryland Agricultural Enforcement System	SCDs	DDM	-	REG	State	Agriculture	Locally
Sediment/erosion control program	SCDs and counties (some towns)	DNR	-	REG	State	Construction, surface mining (resource extraction)	Locally
Septic system regulation	Local health departments	DDM	-	REG	State	Land disposal	Locally
Surface mining program	-	DNR	-	REG	State	Resource extraction	Fully
NPDES program - industrial runoff	-	DDM	-	REG	State	Industrial runoff	Locally
EPA Chesapeake Bay Program		DDM & DNR	EPA	OTH (Assessment)	Region	All major sources	Locally
EPA National Urban Runoff Program	Mash. COG Balt. RPC	-	EPA	OTH (Assessment)	Region	Urban Runoff	Locally
EPA WQM Planning (§ 303e, 208, 205)	Mash. COG Balt. RPC	DDM	EPA	VOL	State	All major sources	Locally/partially
EPA Clean Lakes	Columbia; Baltimore Co.	DDM	EPA	OTH (Assessment)	Local	Agricultural Urban Runoff	Locally
ASCS/SCS Rural Clean Water Program	Carroll Co.	DDM (sampling)	ASCS/SCS	INCEN	Local	Agriculture	Locally
Maryland Agriculture NPS research	-	DDM & Univ. of Md.	-	OTH (Assessment & research)	Local	Agriculture	Locally
Maryland Urban Stormwater Mgt. Program	Counties	DNR	-	REG	State	Urban runoff	New
Maryland Watershed Mgt. Program	-	DNR	-	REG	State	Hydromodification, construction on floodplain	Unknown
Maryland Tidal Wetlands Program (s)	-	DNR	-	REG	Region	Dredging, wetlands destruction	Unknown (partial)
Maryland Coastal Critical Areas Program	Counties	Crit. Areas Commission	-	REG	Region	Inappropriate development or other activities in defined critical area	New
Maryland Coastal Zone Mgt. Program	-	DNR	NOAA	VOL	Region	-	Locally/partially
Maryland Solid Waste Mgt. Program	Counties	DDM	EPA	REG	State	Land disposal	Fully
Maryland Hazardous Waste Mgt. Program	Counties	DDM	EPA	REG	State	Land disposal	Fully
Fisheries Mgt. & protection	-	DNR	Fish & Wildlife	VOL	Region	Hydromodification	Partially
Soil Conservation Program	SCDs	Dept. of Agr.	SCS, ASCS	VOL	State	Agriculture	Locally
Extension Service		Univ. of Md.	CES (USDA)	VOL	State	Agriculture	Locally
Abandoned Mine Program	-	DNR	OSR, SCS	VOL	Region	Acid mine drainage	Locally

Source: Maryland Office of Environmental Programs

Oklahoma Forestry Division

The Forestry Division of the Oklahoma State Department of Agriculture has water quality management responsibilities delegated to it under the State's water quality management program. While these responsibilities lie primarily with the Forestry Division, the Division's program depends heavily on the cooperation of both public and private landowners and other agencies for research and technical assistance. Two basic premises drive the water quality program: (1) preventive rather than corrective actions are the best approach, and (2) water quality protection is best accomplished through nonregulatory application of accepted practices on a site-specific basis. The primary goal of Oklahoma's forest water quality management program is to protect water quality while effectively managing and utilizing the State's forest resources. The overall objectives of the program are to educate landowners and operators, to develop incentives and management support for non-industrial private owners, and to increase public and industry support.

The Forestry Division's strategy outlines nine specific objectives and details activities designed to meet them. These specific objectives are:

- To prepare and present training programs for landowners, contractors, loggers, and forest managers on the topic of selection and application of management practices for water quality protection;
- To prepare and present a comprehensive public information and education program;
- To develop and operate a model demonstration area designed as an example of coordinated forestry and water quality protection activities;
- To provide technical assistance to landowners on the installation of effective water quality management practices (and to propose a pilot cost-sharing program for providing landowner incentives);
- To continue operating a hydrological and biological monitoring program in areas of forestry activities;
- To continue evaluating BMP effectiveness;
- To evaluate the effectiveness of the Division's water quality management program;
- To identify and support needed water quality-related research and development activities; and
- To coordinate forestry water quality management programs with other water quality planning efforts.

To serve as a general guideline for priorities in future NPS management activities, the strategy ranks several silvicultural practices by the potential for causing NPS pollution: forest roads and streamside management

practices; clear-cut harvesting; site preparation; and use of chemicals. The strategy recognizes that a greater effort will be needed to reach absentee owners and owners with extreme financial limitations; in addition, in some cases, financial incentives (such as cost-sharing, direct grants, and tax incentives) will be needed to promote implementation.

Southeast Michigan Council of Governments

The Southeast Michigan Council of Governments (SEMCOG) is a regional planning agency that relies on both the State of Michigan and the local units of governments within its jurisdiction for actual implementation activities. However, in addition to needed NPS planning activities SEMCOG, as a Continuing Planning Agency, can through a variety of mechanisms such as education, persuasion, publicity, and support for legislation, give broad exposure to NPS priorities to encourage the allocation of resources for implementation of solutions. Also, SEMCOG is participating under contract to the State of Michigan in the development of the State's NPS strategy for both urban and rural areas.

SEMCOG's main NPS strategy responsibilities are carried out through the Areawide Water Quality Board. The SEMCOG NPS strategy is actually a chapter of the Areawide Water Quality Management Plan, which is an adopted policy document. This Plan summarizes of all relevant policy statements. However, the Plan can be described in terms of five general categories of NPS pollution and related policy objectives that are of concern to the planning area. They are:

1. Urban Stormwater

- Prevent any increase in the quantity of stormwater runoff in new development above that which naturally occurs.
- Reduce degradation to receiving waters by refining and expanding identification of stormwater quality problems and control techniques.
- Control stormwater runoff from surface storage sites.

2. Agricultural and Other Rural Area Runoff

- Preserve and properly manage wetland areas.
- Provide control methods for nonpoint pollution from agricultural sources including animal wastes and wind and water erosion from cropland.
- Provide for control of sedimentation from streambanks and roadsides.

3. Chemical Uses

- Promote the development of snow and ice management practices and dust control procedures that minimize water quality degradation.
- Ensure the use of fertilizer management practices and rates that protect water quality, minimizing nutrient losses from overland flow and leaching.
- Ensure the use of pesticide control techniques that minimize water quality effects.

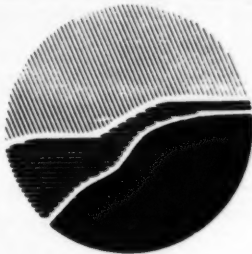
4. Septic Systems

- Guide land use planning for unsewered development through the use of environmental information.
- Ensure the use of environmentally sound septic system design and location standards.
- Establish an institutional method for proper septic system management.
- Monitor water quality in suspected septic system problem areas.

5. Sanitary Landfills

- Provide review and regulation procedures and utilize environmentally sound methods for the site selection and design of sanitary landfills.
- Establish procedures that provide for the operation and maintenance of sanitary landfills to a level necessary for controlling the possible negative effect on water quality.
- Monitor water quality in landfill areas suspected of causing water quality problems.

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